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FILE 'IMOBILITY, 2MOBILITY' ENTERED AT 14:28:01 ON 15 APR 2002

L1 1793 S MOTORCYCLE? OR MOTORBIKE? OR MOTOCYCLE? OR MOTOR()CYCLE?  
 L2 1 S JACK()SHAFT?  
 L3 0 S (WIDE OR WIDER OR ENLARGE?) (2N) (REAR OR BACK) (5N) (TIRE? OR TY  
 L4 65 S (WIDE OR WIDER OR ENLARG?) (5N) (TIRE? OR TYRE? OR WHEEL?)  
 L5 485 S (REAR OR BACK) (2N) (TIRE? OR TYRE? OR WHEEL?)  
 L6 4 S INTERMEDIATE()SHAFT?  
 L7 316 S TRANSMISSION(2N)GEAR?  
 L8 0 S SOFTTAIL? OR SOFT-TAIL? OR SOFT()TAIL?  
 L9 14 S TRANSMISSION()SHAFT?  
 L10 27 S DRIVE()GEAR?  
 L11 24 S DRIVE()BELT?  
 L12 0 S L1 AND L2  
 L13 3 S L1 AND L4  
 L14 35 S L1 AND L5  
 L15 0 S L14 AND (L6 OR L7 OR L9 OR L10 OR L11)  
 L16 0 S L14 AND (GEAR? OR SHAFT? OR BELT?)  
 L17 0 S L1 AND L6  
 L18 4 S L1 AND L7  
 L19 4 S L18 NOT L13

FILE 'ITRD' ENTERED AT 14:36:59 ON 15 APR 2002

L20 3791 S L1  
 L21 0 S L2  
 L22 1 S L3  
 L23 156 S L4  
 L24 345 S L5  
 L25 2 S L6  
 L26 39 S L7  
 L27 0 S L8  
 L28 0 S L9  
 L29 3 S L10  
 L30 4 S L11  
 L31 0 S L20 AND L22  
 L32 0 S L20 AND L23  
 L33 35 S L20 AND L24  
 L34 0 S L33 AND (L25 OR L26 OR L29 OR L30)  
 L35 2 S L33/TI  
 L36 1 S L20 AND (L25 OR L26 OR L29 OR L30)  
 L37 1 S L36 NOT L35

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L13 ANSWER 1 OF 3 IMOBILITY COPYRIGHT 2002 SAE

Full Text

ACCESSION NUMBER: 95:6678 IMOBILITY

DOCUMENT NUMBER: 8-48-4-186

TITLE: Considerations on the use of sequential shock absorbers on **motorcycle** forks

AUTHOR: Basso, R. (Universita di Padova); Zagatti, E. (Universita di Padova)

SOURCE: (1995 Apr) Giornale ed Atti della Associazione Technica dell'Automobile, Vol. 48, No. 4; p. 186 (6 pages).  
Associazione Technica dell'Automobile, Torino, Italy.

PUB. COUNTRY: Italy

DOCUMENT TYPE: Journal

FILE SEGMENT: ATA

LANGUAGE: Italian

AB The main purpose of suspension is to reduce the displacement of the driver and body of the vehicle to a minimum to provide operating comfort and proper contact of the wheels with the road. The forces of motion are particularly elevated for **motorcycles**. Adjustable shock absorbers for the front **wheel** are in **wider** use in competitive **motor cycles**.

This gives the user a greater degree of control in addition to the absorption qualities and rigidity of the rear shock absorber, and the elastic characteristics of the front shock absorber.

This work covers the braking performance of the front suspension system in **motorcycles**. This suspension is made up of a sequential shock absorber in which the degree of absorption is adjustable and also depends on the speed of compression of the fork. During braking, the fork is under a particularly high degree of stress, and high differentials of relative motive speed are achieved. The effects of adjusting the absorption force in pre-defined speed fields may be more evident for this phenomenon.

L13 ANSWER 2 OF 3 IMOBILITY COPYRIGHT 2002 SAE

Full Text

ACCESSION NUMBER: 94:16039 IMOBILITY

DOCUMENT NUMBER: 26-18-4-187

TITLE: From the Institutes - Indian Institute of Technology

AUTHOR: Mohan, Dinesh (Indian Institute of Technology)

SOURCE: (1990) Journal of Traffic Medicine, Vol. 18, No. 4; p. 187  
(4 pages). International Association for Accident and Traffic Medicine, Uppsala, Sweden. ISSN 0345-5564.

PUB. COUNTRY: Sweden

DOCUMENT TYPE: Journal

FILE SEGMENT: IAATM

LANGUAGE: English

AB The Centre for Biomedical Engineering (CBME) initiated traffic safety related research in 1979. The main objectives of the group working on traffic safety at CBME are to conduct research on epidemiology and biomechanics of trauma in road traffic with a view to: (a) Undertake a sponsored and consultancy projects or problems specific to India. (b) serve as a reference center for prevention and control of traffic injuries. (c) Provide advanced training for national and international professionals in the use of epidemiology and biomechanics for injury control.

All the work done is based on the understanding that the results so obtained should lead to safer design of vehicles, the environment and safety devices. New Delhi provides the ideal location for such interdisciplinary activity because the existence of a large number of institutions and professionals in a variety of fields. CBME works in collaboration with experts in other departments at IITD, with medical

professionals at AIIMS, the Center for Community Health and Social Medicine at Jawaharal Nehru University, Voluntary Health Association of India, the National Institute of Design and the Delhi Police.

The studies done over the past decade include: (a) small vehicle conspicuity, (b) analysis of head injuries to two wheeler riders, (c) analysis of crash involved **motorcycle** helmets, (d) fatalities involving buses of the Delhi transport Corporation, (e) analysis of fatalities in Delhi over a one year period, (f) human factors analysis of helmet use patterns in Delhi, (g) design of a more comfortable **motorcycle** helmet for use in tropical climates, (h) a state-of-the-art report on road crashes in India, (i) study of traffic injuries in ten villages outside Delhi.

The above work has required collaboration between engineers, biomechanics experts, orthopaedists, neurosurgeons, social scientists, public health professionals, designers and police officials.

At present work is being done in collaboration with the Delhi Police to study the causal factors related to pedestrian and bicycle crashes. High density crash locations in Delhi have been selected for this study and it is expected to be completed in the end of 1991. Another project, also in collaboration with the Delhi Police has as its objective to give relative safety rankings to **motorcycle** helmets being sold in Delhi. The CBME is also in the process of designing an accident recording system for the Ministry of Surface Transport. Future Plans include work in safer fronts for buses and trucks, redesign of three-wheeler taxis in **wide** use all over India, improvement in helmet design and analysis of optimal cost-effective treatment methodologies for lower limb fracture sustained in two-wheeler crashes.

As a guiding principle the work at CBME attempts to use the latest scientific knowledge and know-how to promote the safety of pedestrians, bicyclists and motorized two-wheeler riders.

L13 ANSWER 3 OF 3 IMOBILITY COPYRIGHT 2002 SAE

Full Text

ACCESSION NUMBER: 93:14297 IMOBILITY

DOCUMENT NUMBER: 937010

TITLE: A study of torque-transfer of **motorcycle** tires on actual road surfaces

AUTHOR: Schmieder, M. (Technical University of Darmstadt); Kurzhals, J.; Hauser, B.

SOURCE: (1993 Mar) . Verlag des Verein Deutscher Ingenieure GmbH, Dusseldorf, Germany. Also published in: VDI Report No. 1025; ISBN 3-18-091025-9.  
Meeting Info.: Motorcycles 5th Congress. Berlin, Germany. 1993 Mar 11 - 1993 Mar 12.  
ISBN: 3-18-091025-9.

PUB. COUNTRY: Germany

DOCUMENT TYPE: Conference Article; (Technical Paper)

FILE SEGMENT: VDI

LANGUAGE: German

AB The authors describe the application of a dynamometer trailer for testing **motorcycle** tires. The unit was designed together with BMW **Motorcycle** Division, and can test many variables, such as wheel load, caster angle, tangential slip and camber angle: The resultant tangential force and side- forces are automatically recorded. All inputs can be varied, so that for a **wide** range of **tires**, characteristic brake-slip/tangential force curves are created. These additional findings to earlier research, suggest new uses for the characteristic curves, and practical applications of this dynamometer for research and industrial users are proposed.

L19 ANSWER 1 OF 4 IMOBILITY COPYRIGHT 2002 SAE

Full Text

ACCESSION NUMBER: 1999:999 IMOBILITY

DOCUMENT NUMBER: 1999-01-0335

TITLE: Material selection for PM gears to be used in two wheeler transmission application

AUTHOR: Ashok, S.(Sundram Fasteners Limited); Murali, K.(Sundram Fasteners Limited); Kumar, R. Krishna(Indian Institute of Technology); Beiss, P.(Technical University of Aachen)

SOURCE: (1999 Mar) . Society of Automotive Engineers, Inc., Warrendale, Pennsylvania, USA. Also published in: SP-1447. Meeting Info.: SAE International Congress and Exposition. Detroit, Michigan, USA. 1999 Mar 01 - 1999 Mar 04.

PUB. COUNTRY: United States

DOCUMENT TYPE: Conference Article; (Technical Paper)

FILE SEGMENT: SAE

LANGUAGE: English

AB Presently, two wheelers (scooters and **motorcycles**) use **transmission gears** produced from wrought material. The production process is expensive and involves significant wastage of material. A combination of finite element analysis and practical experiments have been carried out to produce PM gears (selective surface densification) which can be used for transmission application. Experimental details of this study will be discussed in this paper.

L19 ANSWER 2 OF 4 IMOBILITY COPYRIGHT 2002 SAE

Full Text

ACCESSION NUMBER: 92:4637 IMOBILITY

DOCUMENT NUMBER: 928184

TITLE: Development of FEM generator system for **motorcycle transmission gears**

AUTHOR: Watanabe, Fuhito(Suzuki Motor Corp.); Kato, Etsuji(Suzuki Motor Corp.)

SOURCE: (1992) . Published by Society of Automotive Engineers of Japan, Inc.. Also published in: Proceedings 924, Vol. 1; Other Number: JSAE Technical Paper No. 924030. Meeting Info.: 1992 JSAE Autumn Convention. Kyoto, Japan. 1992 Oct 06 - 1992 Oct 08.

PUB. COUNTRY: Japan

DOCUMENT TYPE: Conference Article; (Technical Paper)

FILE SEGMENT: JSAE

LANGUAGE: Japanese

AB This paper reports the development of an efficient FEM analysis system for **motorcycle transmission gears**. In this system, the FEM analysis models are generated easily from the gear specifications and the dimensions and the FEM analysis is possible to execute immediately. Moreover, the technical calculations to be used formerly, concerning the strength and the specifications, are contained in this system.

L19 ANSWER 3 OF 4 IMOBILITY COPYRIGHT 2002 SAE

Full Text

ACCESSION NUMBER: 91:1014 IMOBILITY

DOCUMENT NUMBER: 911268

TITLE: Development of automatic center stand system for **motorcycle**

AUTHOR: Fujita, Haruyasu(Honda R&amp;D Co., Ltd.); Akashi, Tomohiko(Honda R&amp;D Co., Ltd.); Wakayama, Hirofumi(Honda R&amp;D Co., Ltd.); Funyu, Osamu(Honda R&amp;D Co., Ltd.)

SOURCE: (1991) . Published by Society of Automotive Engineers of

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Japan, Tokyo, Japan. Also published in: P-254.  
Meeting Info.: Small Engines Technology Conference.  
Yokohama, Hamamatsu, Japan. 1991 Oct 21 - 1991 Oct 25.

PUB. COUNTRY: Japan  
DOCUMENT TYPE: Conference Article; (Technical Paper)  
FILE SEGMENT: JSAE  
LANGUAGE: English

AB Various examinations have been conducted on automatic hydraulic and electric motor-driven center stand systems for **motorcycles**. For practical application, problems, however, surfaced as to reconcile high output with small size including a backup mechanism to provide for possible failure in the system. Authors et al. have successfully developed a powerful, electric motor-driven power unit with a high-reduction **gear transmission**. Furthermore, by adopting high-efficiency worm **gear** for **transmission**, the unit was made both compact and lightweight. In addition, a backup mechanism was firmly established, that can be used even when the battery is discharged. As a result, it has become possible to install this automatic center stand system (auto-stand) in mass-production **motorcycles**.

L19 ANSWER 4 OF 4 2MOBILITY COPYRIGHT 2002 SAE

Full Text

ACCESSION NUMBER: 1985:28658 2MOBILITY  
DOCUMENT NUMBER: JASO C 203  
TITLE: Bench performance test procedure for manual transmission  
SOURCE: (1985 Mar 01) . Society of Automotive Engineers of Japan, Inc., Tokyo, Japan.

PUB. COUNTRY: Japan  
DOCUMENT TYPE: Standard; (N/A)  
FILE SEGMENT: JSAE  
LANGUAGE: English

AB This standard specifies the test procedure for the shift force, one of the bench performance test procedures for the manual transmissions (**gear**-type manual **transmission** with the synchromesh) of automobiles, excluding **motorcycles**.

Remark: In this standard, units and numerical values are based on SI (International System of Units), while units and numerical values given in { } are customary units system, and are given for reference.

L35 ANSWER 1 OF 2 ITRD COPYRIGHT 2002 OECD

Full TextACCESSION NUMBER  
TITLE880124 ITRD FILE SEGMENT Publications  
INVESTIGATION OF **MOTORCYCLES** WITH A PASSIVE STEERED  
**REAR WHEEL**

AUTHOR

TEUBERT, C. (TECH UNIV, BERLIN, GERMANY); WILLUMEIT,  
H-P (TECH UNIV, BERLIN, GERMANY)

SOURCE

SAFETY. TECHNICAL PAPERS FROM THE 25TH FISITA CONGRESS,  
BEIJING, 1994, VOL 4. TECHNICAL PAPER NO. 945153 (1994)  
p. 23-9. 3 refs., Published by: INTERNATIONAL ACADEMIC  
PUBLISHERS

ISBN: 7-80003-311-2

PUBLISHER

INTERNATIONAL ACADEMIC PUBLISHERS, 137 CHAOKEI DAJIE,  
BEIJING, CHINA

DOCUMENT TYPE

Report

COUNTRY

China

LANGUAGE

English

AVAILABILITY

From: TRL doc code SEEB9512616 form(s): ORIGINAL, REF  
ONLY

AN 880124 ITRD FS Publications

AB The critical weave mode oscillations of motorbikes, which occur in the high velocity domain, can be damped by a steerable rear wheel when this is turned around a suitable steering axis. Via the case of the one-wheel-drag model, it is shown how this rear wheel steering axle has to be designed, in order to generate a steer angle by tire side force. This steer angle in turn increases the side force and therefore the weave mode damping ratio. Within the limits of usual dimensions of a motorbike, the construction of such a steering axle is only possible by using an adequate quadrilateral joint. The rear wheel steering mechanism was investigated with the help of a simulation model, based on the multi-body-formalism. A simulation of the driving behaviour showed the influence of the rear wheel steering angle upon the driving behaviour of a test motorbike. Final driving tests with a test motorbike equipped with the rear wheel steering system confirmed the usefulness of the chosen approach although there is a shortcoming in the design. The tests were carried out on a roller-test-stand and on a testing field. (A) For the covering abstract see IRRD 880121.

L35 ANSWER 2 OF 2 ITRD COPYRIGHT 2002 OECD

Full TextACCESSION NUMBER  
TITLE334084 ITRD FILE SEGMENT Publications  
STUDY ON IMPROVING THE **MOTORCYCLE** HIGH SPEED  
STABILITY USING A **REAR WHEEL** SELF-STEERING SYSTEM -  
DAMPING EFFECT ON WEAVE MODE DURING STRAIGHT RUNNING

AUTHOR

HIKICHI, T.; TEZUKA, Y.

SOURCE

VDI-BERICHTS (1994), no. 1159. p. 209-21. 4 refs.,  
Published by: VDI-VERLAG GMBH

ISSN: 0083-5560

PUBLISHER

VDI-VERLAG GMBH, HEINRICHSTR. 24, D-40239, DUESSELDORF,  
DEUTSCHLAND BR

DOCUMENT TYPE

Journal; (PERIODIKUM)

COUNTRY

Germany

LANGUAGE

English SUMMARY LANGUAGE English

AVAILABILITY

From: BAST form(s): ORIGINAL, REF ONLY

AN 334084 ITRD FS Publications

AB Bei Hochgeschwindigkeitsfahrten von Motorraedern kann es zu natuerlichen niederfrequenten Schwingungen um die Roll- und die Gierachse kommen, die als Pendeln bezeichnet werden, und durch externe Stoerungen verursacht werden. Um die Pendelbewegung besser abdaempfen zu koennen, wurden Tests

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durchgefuehrt, bei denen der Schraeglaufwinkel des Hinterrads durch Einfuehrung eines passiven Lenkungssystems fuer das Hinterrad kontrolliert werden sollte. Es wurde festgestellt, dass die Stabilitaet des Motorrads bei Hochgeschwindigkeitsfahrten auf gerader Strecke durch dieses passive Hinterradlenkungssystem verbessert werden kann, dass dessen Wirkung aber durch die Eigenschaften der Daempfer, die den Winkel des passiven Hinterradlenkungssystems kontrollieren, vermindert wird. Motorrad. 6. Fachtagung der VDI-Gesellschaft Fahrzeug- und Verkehrstechnik, Koeln, 4. und 5. Oktober 1994. Siehe auch Gesamtaufnahme der Tagung, IDS-Nummer 334073.

L37 ANSWER 1 OF 1 ITRD COPYRIGHT 2002 OECD

Full Text

ACCESSION NUMBER 871914 ITRD FILE SEGMENT Publications  
TITLE MOTOR VEHICLE DEFECT GUIDE: CATEGORISATION OF DEFECTS  
ON ROAD VEHICLES.  
CORPORATE SOURCE VEHICLE INSPECTORATE/ASSOCIATIONS OF CHIEF POLICE  
OFFICERS  
SOURCE (1992) p. -. 0 refs., Published by: VEHICLE  
INSPECTORATE  
ISBN: 0-11-551051-6  
PUBLISHER VEHICLE INSPECTORATE, 49 HIGH HOLBORN, WC1V 6HB,  
LONDON, UNITED KINGDOM  
DOCUMENT TYPE Report  
COUNTRY United Kingdom  
LANGUAGE English  
AVAILABILITY From: TRL doc code B9210638 form(s): ORIGINAL, REF ONLY  
AN 871914 ITRD FS Publications  
AB This document aims to: (1) provide guidance on the course of action to be  
taken by British police in relation to specific motor vehicle defects;  
and (2) promote uniformity of action amongst Authorised Constables. It  
is not a legal document, and must not be treated as an interpretation of  
the relevant legislation. Its three parts cover: (1) heavy goods vehicles  
and public service vehicles; (2) cars and light goods vehicles; and (3)  
**motorcycles**. The topics covered include: (1) engine and associated  
equipment; (2) **transmission**; (3) running **gear**, including wheels and  
tyres; (4) suspension; (5) brakes; (6) steering; (7) chassis; (8)  
driver's area; (9) public service vehicle (PSV) heating and ventilation;  
(10) body exterior; (11) glass; (12) body interior; (13) PSV doors and  
flaps; (14) PSV luggage compartments; (15) electrical equipment; (16)  
road lamps and reflectors; and (17) frame and miscellaneous parts (for  
**motorcycles** only).